8th NOAA TBPG Workshop
Kansas City, MO
April 25-26, 2017

Roundup Presentation

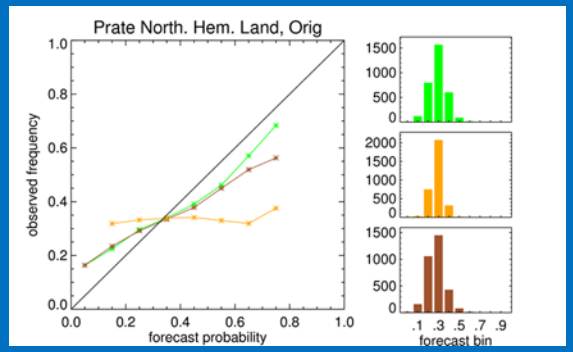
Climate Testbed

David DeWitt

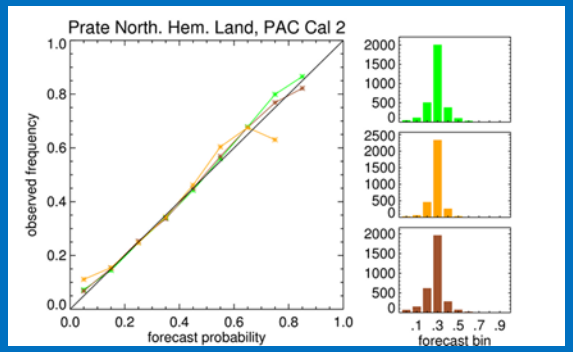
FY16 Highlights

Climate Testbed

- **FY16 Highlight**
  - Improved probabilistic forecast products for the NMME seasonal forecast system.
  - Calibrated NMME monthly/seasonal forecasts using the Probability Anomaly Correlation (PAC) method were implemented operationally in support of CPC operational outlooks.



Uncalibrated Precipitation

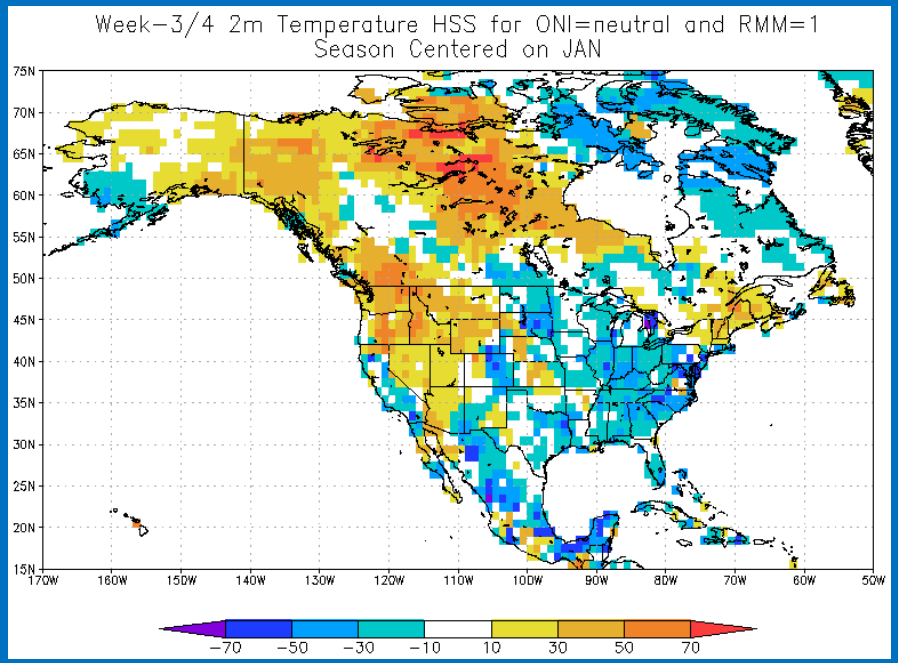


PAC Calibrated Precipitation

FY16 Highlights

Climate Testbed

- **FY16 Highlight**
  - Real-time testing of Empirical Week 3-4 MJO/ENSO Forecast Tool



Heidke Skill Score for Temperature Forecasts
During ENSO Neutral Conditions and MJO Phase 1

FY16 Highlights

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- **FY16 Highlight**
  - Imported the MAM7 aerosol model and Morrison microphysics from NASA/GMAO into NEMS/GSM,. This will be followed by porting to NEMS/FV3

- **FY16 Highlight**
  - Upgrades to the Noah-MP land model (ver. 2.0) have been included in a more recent testing version of the CFS (which currently has v1.0). Tests will be extended within the new NEMSFV3 dynamic core

FY16 Transition Metrics

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Major Tests Conducted	Transitioned to Operations (RL9)	Recommended for Transition to Operations (RL9)	Advanced To Experimental Testing (RL8)	Further Demonstration/ Development (RL 5-7)	Rejected For Further Testing
Development and operational testing of Week3-4 MJO/ENSO tool			X		
Improved probabilistic forecast products for the NMME seasonal forecast system	X				
Climate Process Team for improving turbulence and cloud processes in NCEP global models				TRL 6	
Improving the NCEP CFS through enhancing the representation of soil, hydrology, and vegetation				TRL 7	
Advances in lake effect process predicition within NOAA's Climate Forecast System for North America				TRL 6	

*****Duplicate Slide As Necessary****

Top FY17 Highlights

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- **FY17 Highlight**
  - Transition Week 3-4 MJO/ENSO Tool to Operations
- **FY17 Highlight**
  - Evaluate potential for monthly/seasonal probability of extremes forecasts from the NMME

Top FY17 Highlights

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- **FY17 Highlight**
  - Operational Transition of Soil Moisture and Snow Data Assimilation in the North American Land Data Assimilation System (NLDAS)
- **FY17 Highlight**
  - Seasonal Climate Forecasting Applied to Wildland Fire Management in Alaska

Top FY17 Highlights

Climate Testbed

- **FY17 Highlight**
  - Development of ensemble-based sea ice analysis and forecasting in the Climate Forecast System
- **FY17 Highlight**
  - Evaluate Real-Time Forecast Skill of Community Models at the Week 3-4 Timescale

Top FY17 Highlights

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- **FY17 Highlight**
  - Development of a Monitoring and Prediction System for Flash Droughts over the United States
- **FY17 Highlight**
  - NMME sub-seasonal to seasonal climate products for hydrology and water management

Top FY17 Highlights

Climate Testbed

- **FY17 Highlight**
  - Increasing Subseasonal-to-Seasonal (S2S) Forecast Skill through Climate Teleconnections: A Hybrid Statistical-Dynamical Prediction System.
  - Upgrading the CPC operational ocean monitoring to an eddy-permitting global ocean analysis using the Hybrid Global Ocean Data Assimilation System as a replacement for GODAS.

Questions

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- **Additional Information**
  - **Contacts: david.dewitt@noaa.gov**
  - **Webpage: http://www.nws.noaa.gov/ost/CTB/**